

AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions:

1. (Currently Amended) An apparatus comprising:

_____ a processor;

_____ a plurality of laser drivers in the processor, each of said plurality of laser drivers to generate an electrical data signal at a corresponding one of a plurality of output ports distributed on a surface of the processor;

a laser unit coupled to the surface of the processor, said laser unit having a plurality of input ports, each of the plurality of input ports bonded to one of the output ports distributed on the surface of the processor package, said laser unit including at least one pulse laser to generate a pulse at least one pulse train;
and

said laser unit including a plurality of laser modulators, each of said plurality of laser modulators to receive a particular pulse train from the at least one pulse laser, and a particular electrical data signal from a corresponding one of the plurality of laser drivers, a modulator to receive the pulse train and a data signal, said modulator each of said plurality of laser modulators to encode the its received electrical data signal onto the its received pulse train by selectively passing pulses.

2. (Currently Amended) The apparatus of claim 1 wherein the at least one pulse laser is mode-locked to a particular pulse frequency equal to a data rate of ~~the data signal~~ at least one of the electrical data signals.

3. (Currently Amended) The apparatus of claim 1 wherein the at least one pulse laser ~~is mode-locked to a particular duty ratio of light to no light per pulse cycle~~ comprises a plurality of pulse lasers, each of the plurality of pulse lasers to provide a separate pulse train to a corresponding one of the plurality of laser modulators.

4. (Cancelled)

5. (Currently Amended) The apparatus of claim 1 wherein each of the plurality of laser modulators ~~the modulator~~ comprises one of a Mach-Zhender interferometer or a variable optical attenuator.

6. (Currently Amended) The apparatus of claim 1 further comprising:
a plurality of light conductors ~~light conductor~~ to direct the at least one pulse train from the at least one pulse laser to the ~~modulator~~ plurality of laser modulators.

7. (Currently Amended) The apparatus of claim 6 wherein each of the plurality of light conductors ~~the light conductor~~ comprises at least one of a waveguide or an optical fiber.

8. - 20. (Cancelled)

21. (New) The apparatus of claim 1 wherein the at least one pulse laser comprises a single pulse laser, said laser unit further comprising a beam splitter to direct a single pulse train from the single pulse laser to each of the plurality of laser modulators.